MICROWAVE OVEN

BASIC: SMK9175
MODEL: ME179KFETSR
MODEL CODE: ME179KFETSR/AA

SERVICE Manual

MICROWAVE OVEN

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Refer to the service manual in the GSPN(see rear cover) for the more information.

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PRECAUTIONS TO BE OBSERVED BEFORE AND DURING SERVICING TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY

(a) Do not operate or allow the oven to be operated with the door open.

(b) Make the following safety checks on all ovens to be serviced before activating the magnetron or other microwave source, and make repairs as necessary:
(1) Interlock operation,
(2) proper door closing,
(3) seal and sealing surfaces (arcing, wear, and other damage),
(4) damage to or loosening of hinges and latches,
(5) evidence of dropping or abuse.

(c) Before turning on microwave power for any service test or inspection within the microwave generating compartments, check the magnetron, wave guide or transmission line, and cavity for proper alignment, integrity, and connections.

(d) Any defective or misadjusted components in the interlock, monitor, door seal, and microwave generation and transmission systems shall be repaired, replaced, or adjusted by procedures described in this manual before the oven is released to the owner.

(e) A Microwave leakage check to verify compliance with the Federal performance standard should be performed on each oven prior to release to the owner.

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1. Precaution

Follow these special safety precautions. Although the microwave oven is completely safe during ordinary use, repair work can be extremely hazardous due to possible exposure to microwave radiation, as well as potentially lethal high voltages and currents.

1-1 Safety precautions (⚠)

1. All repairs should be done in accordance with the procedures described in this manual. This product complies with Federal Performance Standard 21 CFR
2. Microwave emission check should be performed to prior to servicing if the oven is operative.
3. If the oven operates with the door open :Instruct the user not to operate the oven and contact the manufacturer and the center for devices and radiological health immediately.
4. Notify the Central Service Center if the microwave leakage exceeds 5 mW/cm^2.
5. Check all grounds.
6. Do not power the MWO from a “2-prong” AC cord. Be sure that all of the built-in protective devices are replaced. Restore any missing protective shields.
7. When reinstalling the chassis and its assemblies, be sure to restore all protective devices, including: nonmetallic control knobs and compartment covers.
8. Make sure that there are no cabinet openings through which people --particularly children--might insert objects and contact dangerous voltages. Examples: Lamp hole,ventilation slots.
9. Inform the manufacturer of any oven found to have emission in excess of 5 mW/cm^2 ,Make repairs to bring the unit into compliance at no cost to owner and try to determine cause. Instruct owner not to use oven until it has been brought into compliance.

   CENTRAL SERVICE CENTER
10. Service technicians should remove their watches while repairing an MWO.
11. To avoid any possible radiation hazard,replace parts in accordance with the wiring diagram. Also, use only the exact replacements for the following parts: Primary and secondary interlock switches, interlock monitor switch.
12. If the fuse is blown by the Interlock Monitor Switch: Replace all of the following at the same time: Primary, door sensing switch and power relay, as well as the Interlock Monitor Switch. The correct adjustment of these switches is described elsewhere in this manual. Make sure that the fuse has the correct rating for the particular model being repaired.
13. Design Alteration Warning: Use exact replacement parts only, i.e.,only those that are specified in the drawings and parts lists of this manual. This is especially important for the Interlock switches, described above. Never alter or add to the mechanical or electrical design of the MWO. Any design changes or additions will void the manufacturer’s warranty. Always unplug the unit’s AC power cord from the AC power source before attempting to remove or reinstall any component or assembly.
14. Never defeat any of the B+ voltage interlocks. Do not apply AC power to the unit (or any of its assemblies) unless all solid-state heat sinks are correctly installed.
15. Some semiconductor (“solid state”) devices are easily damaged by static electricity. Such components are called Electrostatically Sensitive Devices (ESDs). Examples include integrated circuits and field-effect transistors. Immediately before handling any semiconductor components or assemblies, drain the electrostatic charge from your body by touching a known earth ground.
16. Always connect a test instrument’s ground lead to the instrument chassis ground before connecting the positive lead; always remove the instrument’s ground lead last.
17. When checking the continuity of the witches or transformer, always make sure that the power is OFF, and one of the lead wires is disconnected.
18. Components that are critical for safety are indicated in the circuit diagram by shading, ⚠ or ⚠ .
19. Use replacement components that have the same ratings, especially for flame resistance and dielectric strength specifications. A replacement part that does not have the same safety characteristics as the original might create shock, fire or other hazards.

    NOTE : Connect the oven to a 20A. When connecting the oven to a 15A,make sure that circuit breaker can operate.

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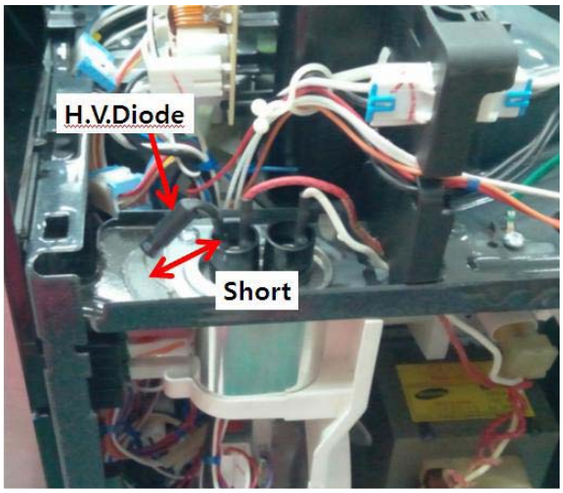
1-2 Special High Voltage Precautions

1. High Voltage Warning Do not attempt to measure any of the high voltages --this includes the filament voltage of the magnetron. High voltage is present during any cook cycle. Before touching any components or wiring, always unplug the oven and discharge the high voltage capacitor. (See the picture)
2. The high-voltage capacitor remains charged about 30 seconds after disconnection. Short the negative terminal of the high-voltage capacitor to to the oven chassis. (Use a screwdriver.)
3. High voltage is maintained within specified limits by close-tolerance, safety-related components and adjustments. If the high voltage exceeds the specified limits, check each of the special components.



PRECAUTION

There exists HIGH VOLTAGE ELECTRICITY with high current capabilities in the circuits of the HIGH VOLTAGE TRANSFORMER secondary and filament terminals. It is extremely dangerous to work on or near these circuits with the oven energized.

DO NOT measure the voltage in the high voltage circuit including filament voltage of magnetron.

PRECAUTION

Servicemen should remove their watches whenever working close to or replacing the magnetron.

PRECAUTION

Never touch any circuit wiring with your hand nor with uninsulated tool during operation.

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2. Specifications

2-1 Features

Product Features	
Luxurious Look	The Stainless Steel (STSS) exterior delivers a luxurious look to your kitchen. The design matches perfectly with your other kitchen appliances, providing a harmonious kitchen interior.
Controllable Ventilation System	Depending on the duct location, you can set the orientation of the vent. You can also select the ventilation power (High, Medium, Low, Off) depending on your cooking selection.
LED Cook-top Lighting	LED lighting gently brightens every corner of your cook top. Low Power consumption and long life of Samsung LED light remarkably save your energy.
Speed Cook, Smart Chef & Auto Cook Menu	Don't know how to cook? Samsung's new OTR auto cooking technology offers preset functions resulting in perfectly cooked dishes every time. Simply select a cooking menu, and the cooking results will astound you.
VFD display	With an informative VFD (Vacuum Fluorescent Display), your OTR lets you easily use all available functions.
Speedy Cooking	Samsung's microwave and convection combination technology make you can cook faster up to twice.
Big Interior Capacity **For convenience**	With the 1.7 cu.ft capacity, it offers enough space to cook. The big capacity combined with 950 watts of output achieves superior cooking results.
One Touch Easy Filter	Samsung One Touch Filter system™ can be ejected and loaded by One Touch easily. It is also positioned in front of OTR eye-level. Easy to check the condition of filter frequently without difficulty. It can be cleaned easily with water and soap at one, because its Washable Filter consists of only one piece for your convenience.
Ceramic coating	The interior fully coated with Ceramic Enamel offers solid surface that never scratches and cracks. So you can enjoy the same new interior even after long use. Moreover, it prevents the bacteria and the sooth surface is easy to clean as well. The significantly higher cooking temperature and animal protein can cause severe discoloration and cleaning issues. But the Ceramic Enamel Interior prevents all of them.
Steam Clean	The steam provided by steam clean system will soak the cavity surface. After using steam clean function, you can easily clean the cavity of oven.

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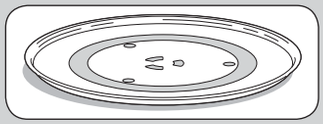
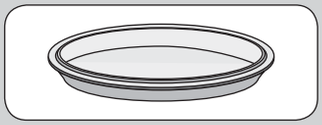
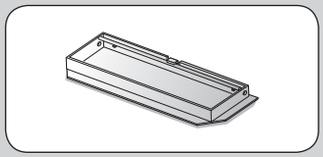
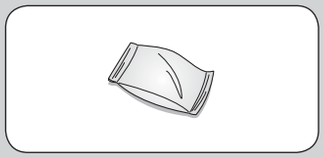
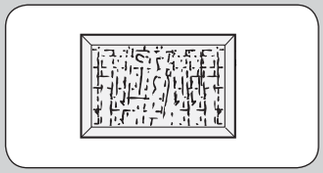
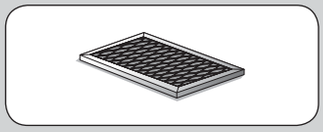
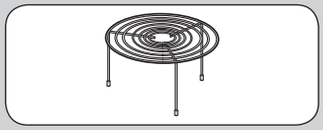
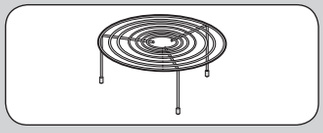
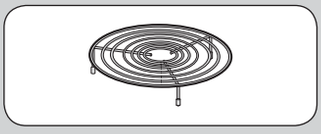
2. Specifications

2-2 Accessory

Item	Description	Code No.	Q'ty
	TRAY COOKING	DE74-20016A	1
	TRAY-CONVECTION	DE63-00234A	1
	ASSY-GUIDE ROLLER	DE97-00368B	1
	ASSY-HOOD DAMPER	DE92-90242D	1
	ASSY-HARD WARE	DE92-90505E	1
	FILTER AIR (INSTALLED)	DE63-00196A	1
	FILTER CHARCOAL	DE63-00367D	1
	ASSY WIRE RACK-HIGH	DE97-00456A	1
	ASSY WIRE RACK-MIDDLE	DE97-00456B	1
	ASSY WIRE RACK-LOW	DE97-00456C	1

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2. Specifications

2-3 Table of Specifications

Items		Basic Model	New Model
		SMK9175ST/XAA	ME179KFETSR/AA
Oven Cavity		1.7	1.7
Controls		10 power levels, including defrost	10 power levels, including defrost
Timer		99 minutes, 99seconds	90 minutes
Power Source		120VAC, 60Hz	120VAC, 60Hz
Power consumption (Microwave)		1650 Watts	1700 Watts
Power consumption (Heater)		1600 Watts	1750 Watts
Power Output (Microwave)		950 Watts	950 Watts
Oven Cavity	Dimensions (W x H x D inches)	$20^{1/8}$ X $10^{5/16}$ X 14	$20^{1/8}$ X $10^{5/16}$ X 14
Outside		$29^{7/8}$ X $16^{15/16}$ X $15^{7/16}$	$29^{7/8}$ X $16^{15/16}$ X $17^{9/16}$
Shipping		$33^{3/8}$ X $19^{7/16}$ X $20^{3/16}$	$33^{3/8}$ X $19^{7/16}$ X $20^{3/16}$
Net/Gross Weight		79.5 lbs / 86.1 lbs	76.7 lbs / 86.6 lbs
Export Zone		USA	USA

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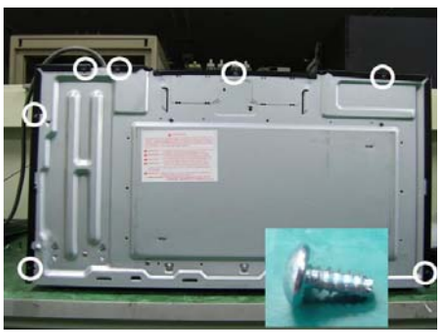
3. Disassembly and Reassembly

MAGNETRON, MOTOR ASSEMBLY, VENT BLOWER AND HIGH VOLTAGE TRANSFORMER
Oven must be removed from wall.
REMOVING OVEN FROM WALL (2 PEOPLE REQUIRED)
Oven is hooked on metal tabs at bottom of wall mounting plate and to cabinet by (3) top cabinet bolts.

3-1 Disassembly of Assembly Grille and Panel Outer

Parts	Explanation Photo	Explanation
Grille		**1.** Disconnect oven power. **2.** Remove Grille. **1)** Remove 2 screws **2)** Slide the Grille to the left, then pull it straght out.
Panel Outer		**1.** Disconnect oven power. **2.** Remove Grille. **3.** Remove Screw.(7)
		4. Remove Screw.(5)

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3-1 Disassembly of Assembly Grille and Panel Outer

Parts	Explanation Photo	Explanation
Panel Outer		**5.** On right-hand side of the oven, remove 3 screws.
		6. On the left-hand side of the oven, remove 2 screws.
		7. Remove Screw.(2)
		8. Remove Panel Outer.

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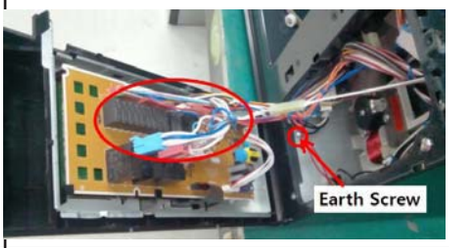
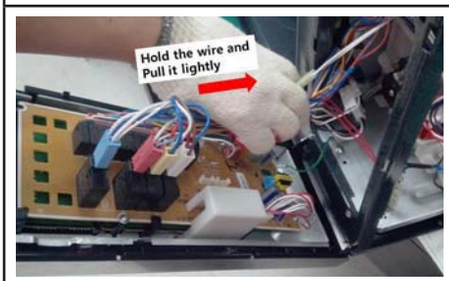
3-2 Replacement of Control Circuit Board

<table>
<tr><th>Parts</th><th>Explanation Photo</th><th>Explanation</th></tr>
<tr><td>Removal of Control Box Assembly</td><td>
  </td><td>1. Disconnect power and remove Grille.
2. Be sure to ground any static electric charge in your body and never touch the control circuit.
3. Remove a screw securing the control box assembly.
4. Remove the earth screw and disconnect the connectors from the control circuit board. Make sure to note the positions of the connectors for replacement.</td></tr>
<tr><td rowspan="2">Removal of P.C.B Assembly</td><td>

 </td><td>1. Take out the Knob Dial.
2. Remove screw securing the Cover-PCB and take out the Cover-PCB.
3. Pull the lever end of the plastic fastener and remove the Flexible Printed Circuit(FPC) of membrane panel.
4. Remove screws(4) securing the Main control circuit board(Main PBA).
5. Lift up the control circuit board(Main PBA) from the Ass'y control box.
6. Remove screws(4) securing the Display control circuit board(Display PBA).
7. Lift up the control circuit board(Display PBA) from the Ass'y control box.
8. When reconnecting the FPC connector, make sure that the holes on the connector are properly engaged with the hooks on the Plastic Fastener.</td></tr>
<tr><td>  </td><td>After reconnecting the connectors, make sure that the connectors are connected securely on the terminal of control circuit board by pulling the wires lightly.</td></tr>
</table>

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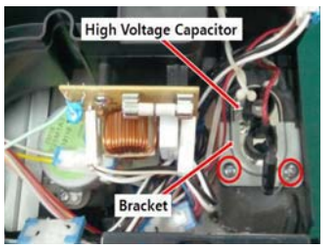
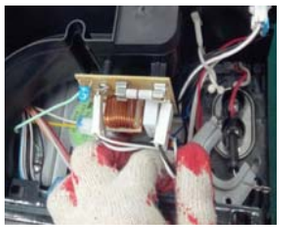
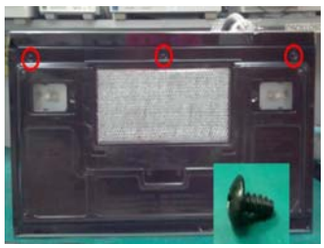
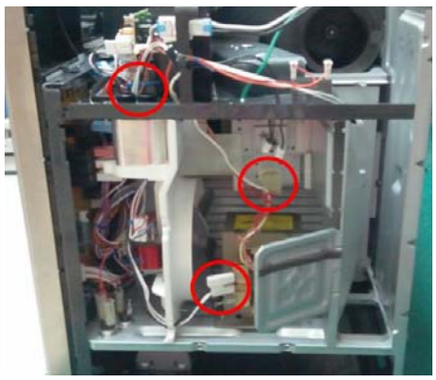
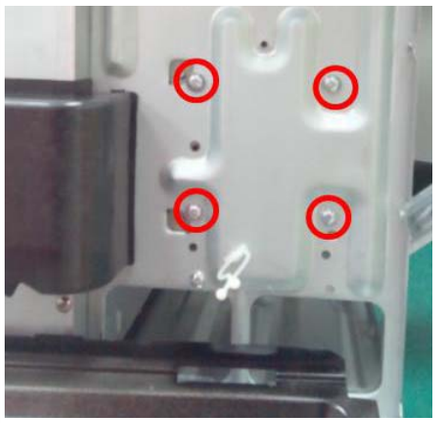
3-3 Replacement of High Voltage Transformer and HVC and Base bottom

<table>
<tr><th>Parts</th><th>Explanation Photo</th><th>Explanation</th></tr>
<tr><td rowspan="2">High voltage capacitor</td><td> 
</td><td>1. Disconnect Oven Power.
2. Remove Panel Outer , Grill and Control Box.
3. Discharge The High Voltage Capacitor.

⚠ ATTENTION : When discharge must become ground terminal of HVC and metal of around.</td></tr>
<tr><td>  </td><td>4. Remove screws(2) and take out the bracket.
5. Disconnect the Lead Wire.
6. Take out the Bracket of High Voltage Capacitor.
7. Take out High Voltage Capacitor.</td></tr>
<tr><td>Base Bottom</td><td> 
</td><td>1. Remove Screw.(7)
2. Disconnect Lamp Housing.
3. Remove Base bottom.</td></tr>
<tr><td rowspan="2">HV Trans</td><td>  </td><td>1. Disconnect the Lead Wire.</td></tr>
<tr><td>  </td><td>2. Remove Screw.(4)
3. Take out the HV Trans.</td></tr>
</table>

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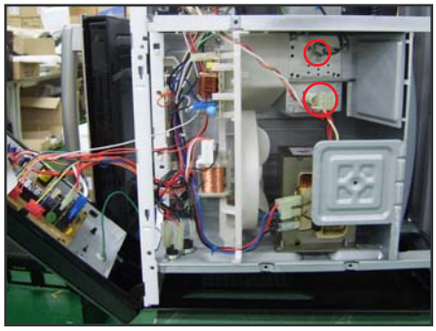
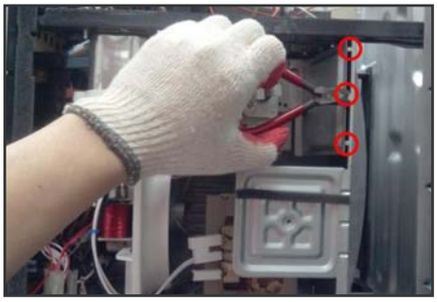
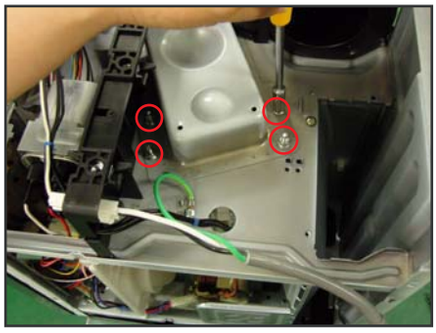
3-4 Replacement of Magnetron

<table>
<tr><th>Parts</th><th>Explanation Photo</th><th>Explanation</th></tr>
<tr><td rowspan="3">Magnetron</td><td>  </td><td>Remove the magnetron including the shield case, permanent magnet, choke coils and capacitors (all of which are contained in one assembly).
1. Disconnect all lead wires from the magnetron.</td></tr>
<tr><td>  </td><td>2. Cut the rib of Bracket Duct Rear by using nippers.</td></tr>
<tr><td>  </td><td>3. Remove nuts (4) securing the magnetron to the wave guide.
4. Take out the magnetron very carefully.</td></tr>
<tr><td colspan="3">NOTE1: When removing the magnetron, make sure that it antenna does not hit any adjacent parts, or it may be damaged.
NOTE2: When replacing the magnetron, be sure to remount the magnetron gasket in the correct position and make sure the gasket is in good condition.</td></tr>
</table>

PRECAUTION

During replacement, be certain R.F. Anode gasket is in place around anode stub.

PERFORM MICROWAVE LEAKAGE TEST

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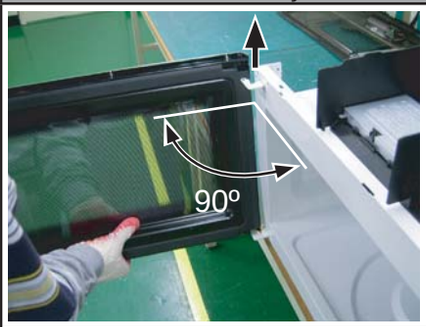
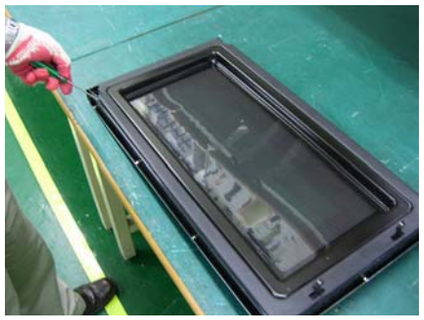
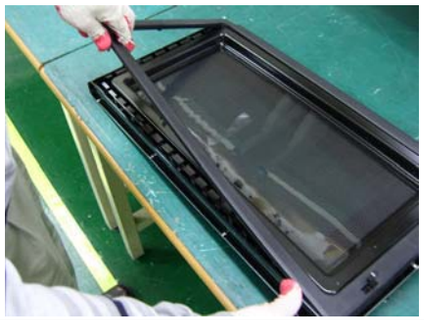
3-5 Replacement of Door Assembly

Parts	Disassembly Photo	Explanation
Removal of Door Assembly		**1.** Open the Assembly Door by degree 90º **2.** Separate lifting Assembly Door from Set.
Removal of Door C	 	**2.** Insert flat screwdriver into the gap between Door “A” and Door “C” to remove Door “C”. • Becareful when handling Door “C” because it is fragile.
Removal of Key Door & Spring	 	**3.** Detach the spring and key door from Door.

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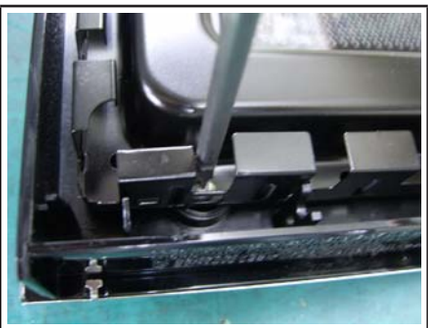
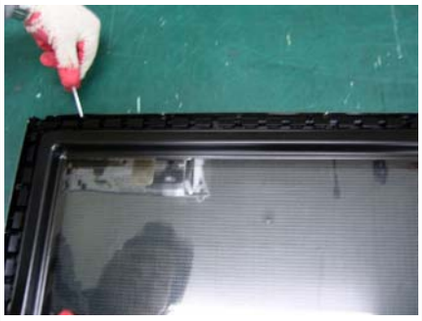
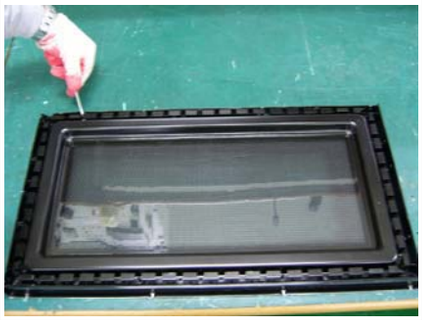
3-5 Replacement of Door Assembly

Removal of Handle	 	**4.** Remove 2 screws, then handle is detached from Door “A”.
Removal of Door “E”	 	**5.** Following the procedure as shown in the figure, insert and bend a thin metal plate between Door “E” and Door “A” until you hear the ‘tick’ sound. • Insertion depth of the thin metal plate should be 0.5mm or less.

PRECAUTION

PERFORM MICROWAVE LEAKAGE TEST

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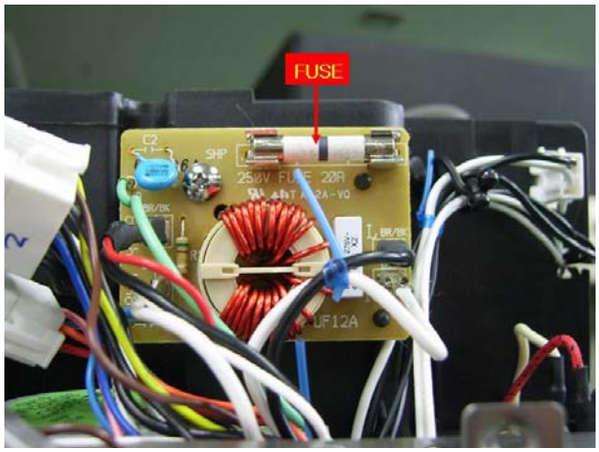
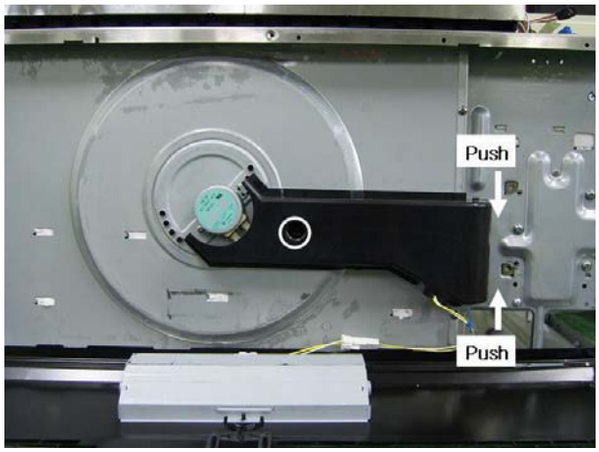
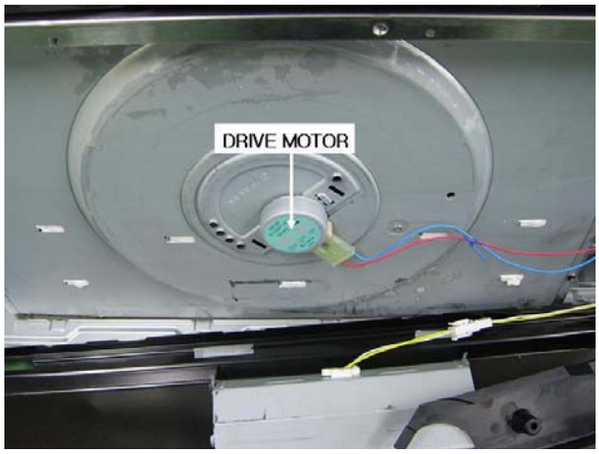
3-6 Replacement of Fuse

Parts	Explanation Photo	Explanation
Fuse		The fuse is located on the noise filter. **1.** Disconnect power and remove grille and Assembly Control Box. **2.** Replace the fuse. **3.** When 20A fuse blows out by the operation of interlock monitor switch failure, replace the primary interlock switch, secondary interlock switch, door sensing switch, interlock monitor switch and power relay. **4.** When the above four switches operate properly, check if any other part such as the control circuit board, blower motor or high voltage transformer is defective.

3-7 Replacement of Drive Motor

Parts	Explanation Photo	Explanation
Drive Motor	 	**1.** Disconnect power and remove Base bottom screws(5). **2.** Remove Base bottom **3.** Remove the screw securing turntable motor wire cover. **4.** Remove turntable motor wire cover. **5** Disconnect the turntable motor drive. **6.** Remove turntable motor screws(1) and pull the turntable motor out. **7.** When replacing the drive motor, be sure to remount it in the correct position with the coupler. **8.** Connect all the leads to the drive motor.

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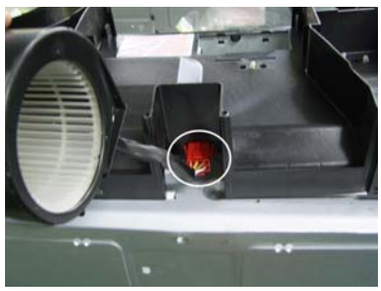
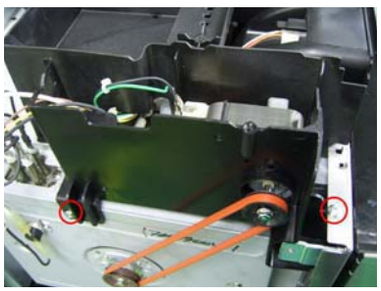
3-8 Replacement of Upper Duct

Parts	Explanation Photo	Explanation
Duct-Upper Bracket		**1.** Disconnect power and remove Out Panel and Grille. **2.** Remove the Duct-upper Bracket.
Ventilation Motor	 	**3.** Remove the screw securing Ventilation Motor. **4.** Take out Ventilation Motor by disconnecting the lead wire.
Heater Air Guide Assembly		**5.** Take out Heater Air Guide Assembly by removing the screws(2).

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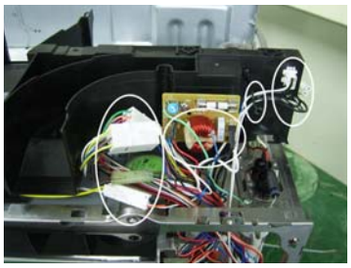
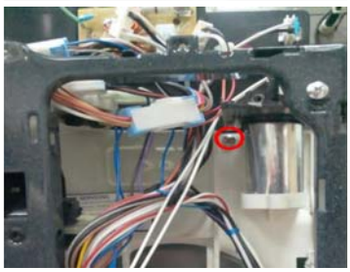
3-8 Replacement of Upper Duct

Parts	Explanation Photo	Explanation
Duct-upper	 	**6.** Disconnect all connectors and take out all wires from wire saddle. **7.** Remove all wires saddle(6) on the Duct-upper. **8.** Remove screw. **9.** Replace Upper Duct.

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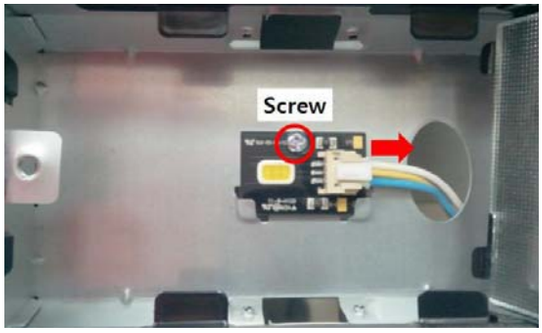
3-9 Replacement of Cooktop lamp

When replacing the night light, make sure that you are wearing gloves to avoid injury from the heat of the bulb.

Parts	Explanation Photo	Explanation
Cooktop Lamp	 	**1.** Unplug the oven or turn off the power at the main power. **2.** Remove the lamp cover, and mounting screws. **3.** Replace LED lamp board. **4.** Replace the lamp cover and mounting screws. **5.** Turn the power back on at the main power supply.

NOTE1: To purchase a new LED lamp board, visit an authorized service center or call 1-800-Samsung (1-800-726-7864).

NOTE2: The current of Normal LED lamp is 85mA ~ 150mA (in DC12V).

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3-10 Replacement of Oven Light

Parts	Explanation Photo	Explanation
Oven Light	 	**1.** Disconnect Oven power. **2.** Remove the Grille. **3.** Remove the bracket Duct upper by remove 1 screw. **4.** Replace the bulb with a 20 watt halogen bulb.

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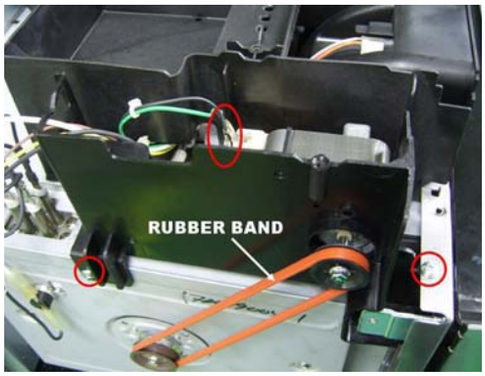
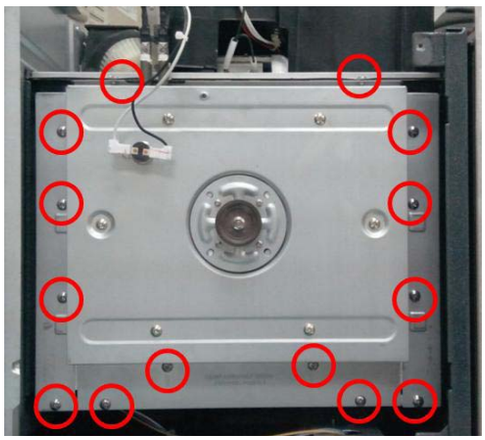
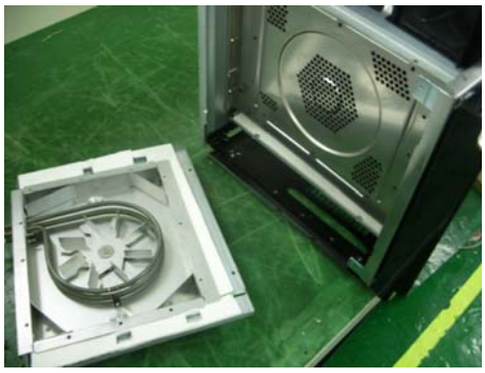
3-11 Replacement of Convection Fan Assembly

<table>
<tr><th>Parts</th><th>Explanation Photo</th><th>Explanation</th></tr>
<tr><td>Heater Air Guide Assembly</td><td> 
</td><td>1. Disconnect power and remove out panel.
2. Remove Rubber band.
3. Remove the screw(2) securing the Heater Air Guide Assembly and disconnect the motor wire.
4. Take out the Heater Air Guide Assembly.</td></tr>
<tr><td rowspan="2">Convection Fan Assembly</td><td>  </td><td>5. Disconnect all connectors.
6. Remove the screws(14) securing Convection Fan Assembly at outside.</td></tr>
<tr><td>  </td><td>7. Take out the Heater Air Guide Assembly.</td></tr>
</table>

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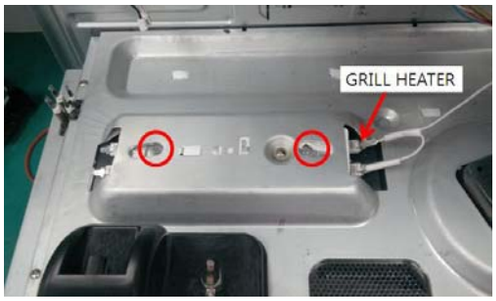
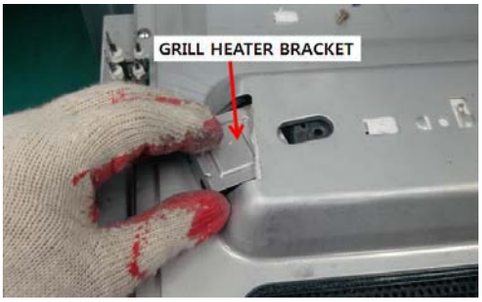
3-12 Replacement of Grill Heater

Parts	Explanation Photo	Explanation
Ceramic Heater		**1.** Disconnect power and remove out panel. **2.** Remove the Duct-upper. **3.** Remove the nuts(2). **4.** Take out Grill Heater Protector.
		**5.** Remove the Grill Heater Bracket.
		6. Pull out the Grill Heater.

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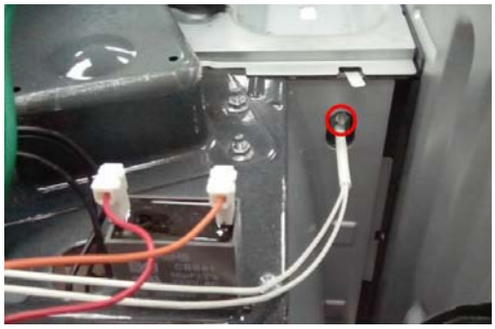
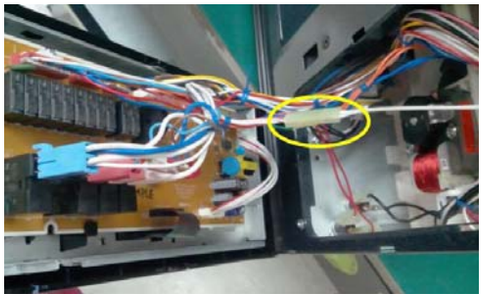
3-13. Replacement of Thermal Sensor

Parts	Explanation Photo	Explanation
Thermal Sensor		**1.** Disconnect power and remove Out Panel. **2.** Remove the nut by using 7mm vox.
		**3.** Disconnect connector.

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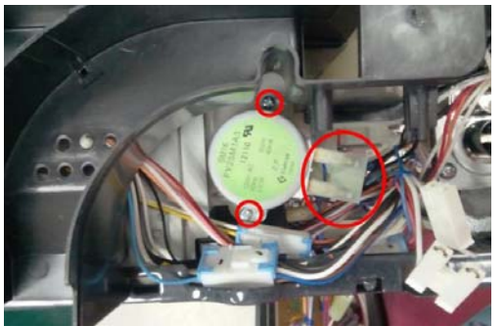
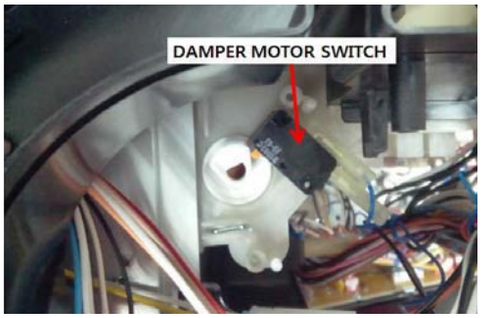
3-14. Replacement of Damper Motor & Damper Motor Switch

Parts	Explanation Photo	Explanation
Damper Motor & Damper Motor Switch		**1.** Disconnect power and remove Out Panel. **2.** Take out Noise Filter. **3.** Remove the screws(2). **4.** Disconnect connector. **5.** Take out Damper Motor.
		**6.** Tack out Damper Motor Switch.

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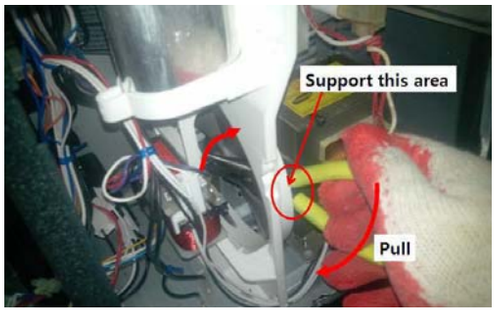
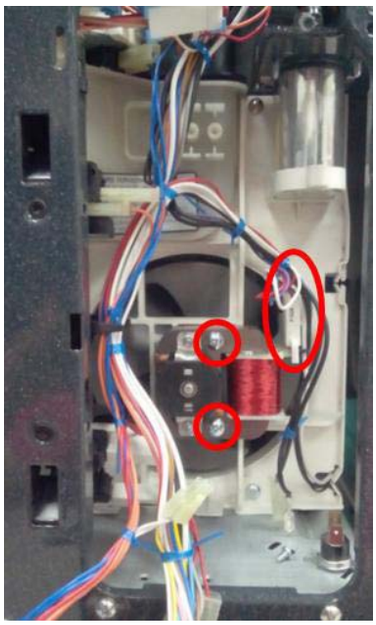
3-15. Replacement of Fan Motor

Parts	Explanation Photo	Explanation
Fan Motor		**1.** Disconnect power and remove Out Panel. **2.** Remove the Fan Blade by using long nose.
		**3.** Disconnect the connectors and remove the screws(2). **4.** Replace the Fan motor.
		5. After replacing the Fan Motor and reconnecting lead wires, make sure that the terminal of Fan Motor by pulling the wires lightly.

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4. Troubleshooting

4-1 Error Code Numbering Rule

1. ERROR CODE NUMBERING RULE is applied to a microwave oven and an oven.(CMO, OTR, Grill, Convection, Commercial etc.)
2. All sensors and devices have their own number. ex) Gas Sensor = 1, Temp. Sensor = 2, ...
3. Of each device, No.1 and No.2 refer to “Open Error” (not sensed) and “Short Error”, respectively.
4. This numbering rule has been applied to models to have been developed since January, 1, 2005. (But, GE or Customize model are excluded.)

E	-	1	1

DEVICE	ERROR CASE
0- Others	1- Open
1- Gas Sensor	2- Short
2- Temp. Sensor	•
3- Weight Sensor	•
4- Easy/PH Sensor	•
5- EEPROM	
•	
•	
•	

4-2 Error Code List

Error Code	Others (E-0X, Letter)	Solution	Page
E-03	If the WARM, CONVECTION, PREHEAT and BROIL do not reach over 217 of HEX value within 3 minutes, it causes ‘E3’error and converts to cancel mode.	CONVECTION MOTOR OPEN CONVECTION HEATER OPEN	-
E-11	‘OPEN ERROR’ of gas sensor.	-	-
E-12	‘SHORT ERROR’ of gas sensor.	-	-
E-21	‘OPEN ERROR’ of thermal sensor	-	23 Page
E-22	‘SHORT ERROR’ of thermal sensor	-	23 Page
E-23	If the PREHEAT does not reach the preset temperature within 30 minutes, it causes ‘E4’ error and converts to cancel mode.	ASSY CASING poor	21 Page
E-24	If overheat during cooking causes to reach 500F, it stops all modes of cooking, causes ‘E-24’ error, and converts to cancel mode.	SENSOR poor	23 Page
E-83	Display error.	Replace Control Circuit Board	11 Page
E-A1	Damper Positioning Error (40 seconds)	Replace Damper Motor or Damper SW	24 Page
-SE-	Key Short Error (60 seconds)	Turn off set and restart.	-
TE	Touch Communication Error (10 seconds)	Replace Control Circuit Board	11 Page

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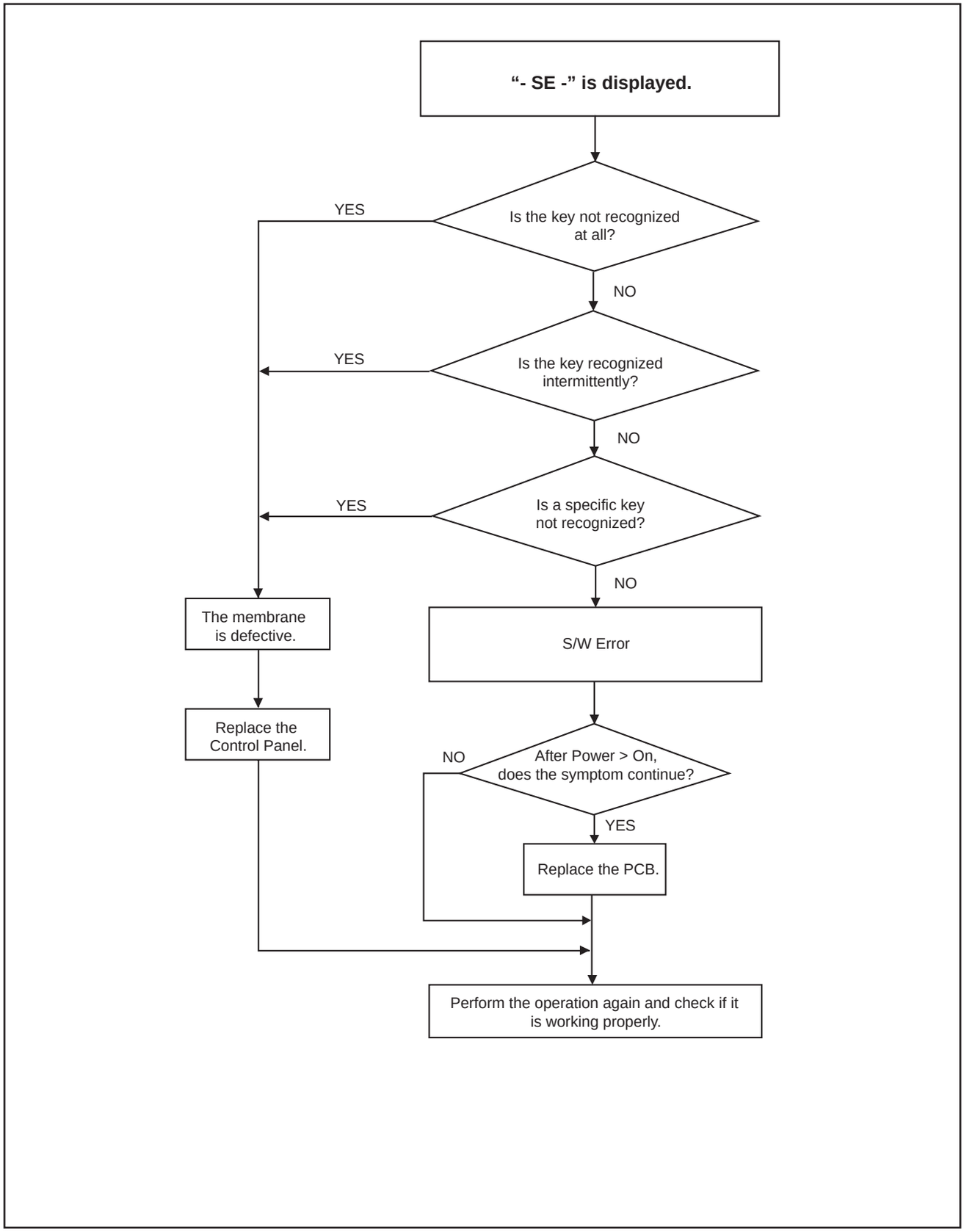
4-2-1 Key Short Error



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PRECAUTION

1. CHECK GROUNDING BEFORE CHECKING FOR TROUBLE.
2. BE CAREFUL OF THE HIGH VOLTAGE CIRCUIT.
3. DISCHARGE THE HIGH VOLTAGE CAPACITOR.
4. WHEN CHECKING THE CONTINUITY OF THE SWITCHES OR TRANSFORMER, DISCONNECT ONE LEAD WIRE FROM THESE PARTS AND THEN CHECK CONTINUITY WITHOUT THE POWER SOURCE ON. TO DO OTHERWISE MAY RESULT IN A FALSE READING OR DAMAGE TO YOUR METER.
5. DO NOT TOUCH ANY PART OF THE CIRCUIT OR THE CONTROL CIRCUIT BOARD, SINCE STATIC DISCHARGE MAY DAMAGE IT. ALWAYS TOUCH GROUND WHILE WORKING ON IT TO DISCHARGE ANY STATIC CHARGE BUILT UP.

4-3 Electrical Malfunction

Oven is dead. (No display and no operation at all.)

Fuse is OK

Yes

CAUSE?

- Open or loose lead wire harness
- Open thermal cutout (Magnetron) → CORRECTIONS: Check fan motor when thermal cutout is defective.
- Open low voltage transformer → Check Ass'y PCB when L.V.T is defective.
- Defective Ass'y PCB

No

CAUSE?

- Shorted lead wire harness
- Defective primary latch switch (NOTE 1)
- Defective monitor switch (NOTE 1)
- Shorted H.V.Capacitor
- Shorted H.V.Transformer (NOTE 2)

CORRECTIONS: Check adjustment of primary, interlock monitor, power relay, door sensing switch.

NOTE 1: All of these switches must be replaced at the same time. (refer to adjustment instructions)
Check continuity of power relay contacts and if it has continuity, replace power relay also.

NOTE 2: When H.V.Transformer is replaced, check diode and magnetron also.

Oven does not accept key input (Program)

Oven does not accept key input

CAUSE?

- Key input is not in-Sequence → CORRECTIONS: Refer to operation procedure.
- Open or loose connection of membrane key pad to Ass'y PCB
- Shorted or open membrane panel
- Defective Ass'y PCB → Replace PCB main.

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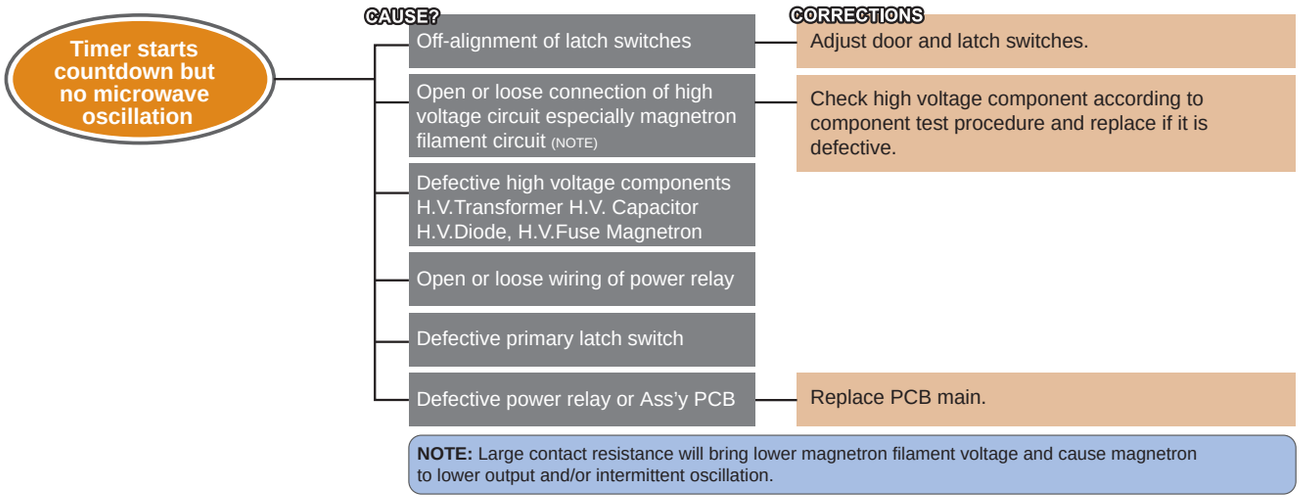
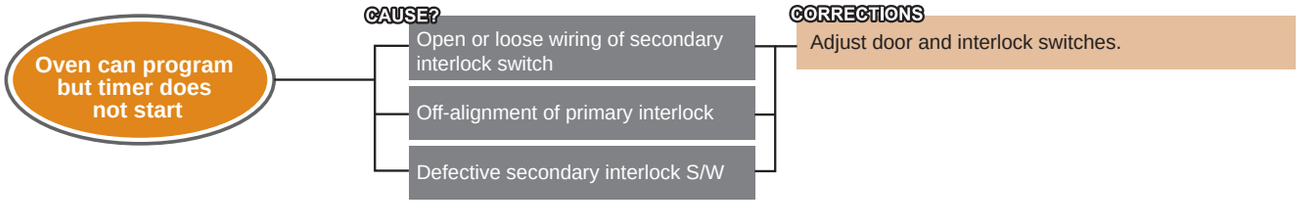
4. Troubleshooting

Timer starts countdown but no microwave oscillation.

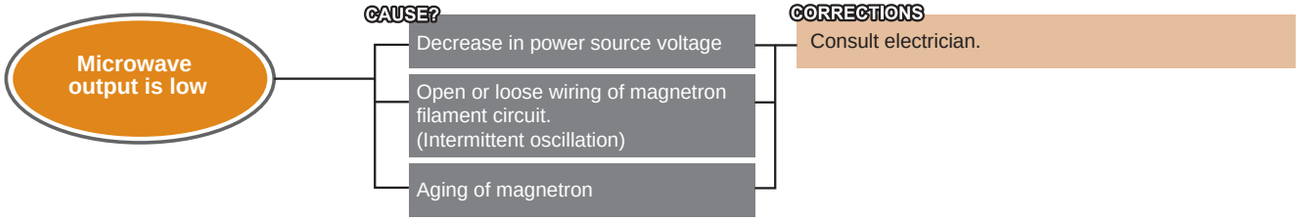
(No heat while oven lamp and fan motor turn on.)


Timer starts countdown but no microwave oscillation
CAUSE?
CORRECTIONS
Off-alignment of latch switches
Adjust door and latch switches.
Open or loose connection of high voltage circuit especially magnetron filament circuit (NOTE)
Check high voltage component according to component test procedure and replace if it is defective.
Defective high voltage components H.V.Transformer H.V. Capacitor H.V.Diode, H.V.Fuse Magnetron
Open or loose wiring of power relay
Defective primary latch switch
Defective power relay or Ass'y PCB
Replace PCB main.
NOTE: Large contact resistance will bring lower magnetron filament voltage and cause magnetron to lower output and/or intermittent oscillation.

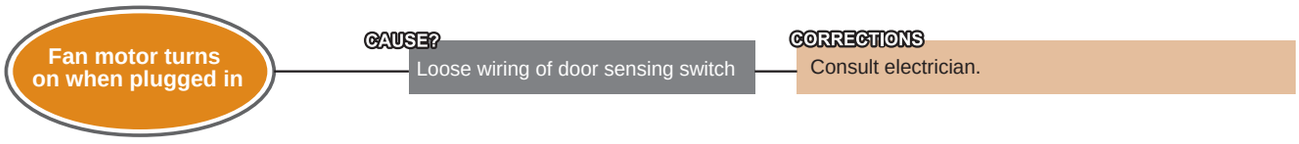
Oven can program but timer does not start.


Oven can program but timer does not start
CAUSE?
CORRECTIONS
Open or loose wiring of secondary interlock switch
Adjust door and interlock switches.
Off-alignment of primary interlock
Defective secondary interlock S/W

Microwave output is low. (Oven takes longer time to cook food.)



Fan motor turns on when plugged in.



Oven does not operate and return to the plugged in mode.

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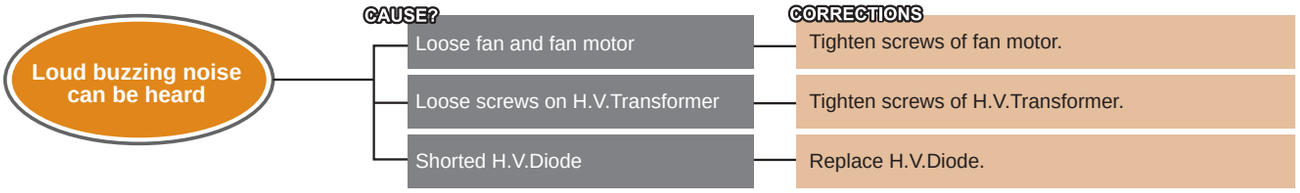
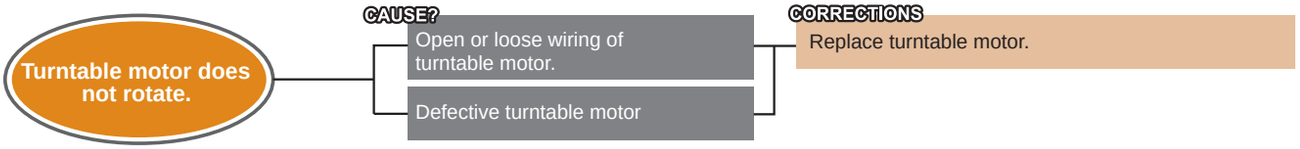
4. Troubleshooting

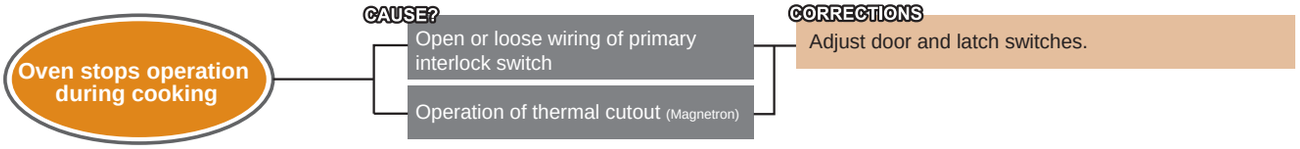
Loud buzzing noise can be heard.



Turntable motor does not rotate.



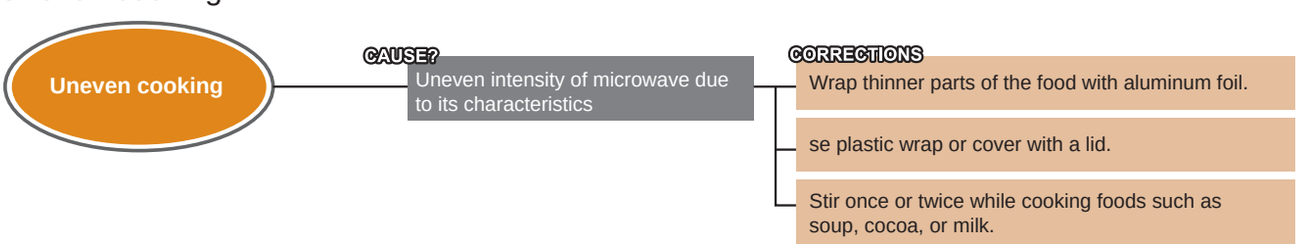
Oven stops operation during cooking.


Oven stops operation during cooking
CAUSE?
Open or loose wiring of primary interlock switch
Operation of thermal cutout (Magnetron)
CORRECTIONS
Adjust door and latch switches.

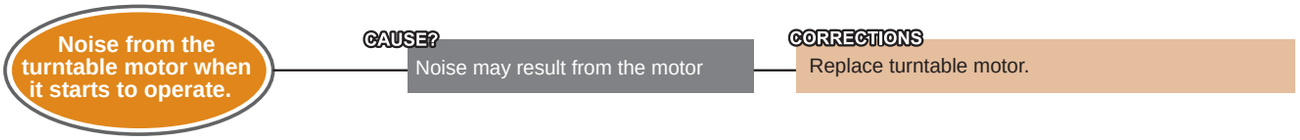
Sparks.

Sparks
CAUSE?
Metallic ware or cooking dishes touching on the oven wall
Ceramic ware trimmed with gold or silver powder also causes sparks
CORRECTIONS
Inform the customer: Do not use any type of cookware with metallic trimming

Uneven cooking.


Uneven cooking
CAUSE?
Uneven intensity of microwave due to its characteristics
CORRECTIONS
Wrap thinner parts of the food with aluminum foil.
se plastic wrap or cover with a lid.
Stir once or twice while cooking foods such as soup, cocoa, or milk.

Noise from the turntable motor when it starts to operate.


Noise from the turntable motor when it starts to operate.
CAUSE?
Noise may result from the motor
CORRECTIONS
Replace turntable motor.

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5-1 PCB Diagrams(Main)

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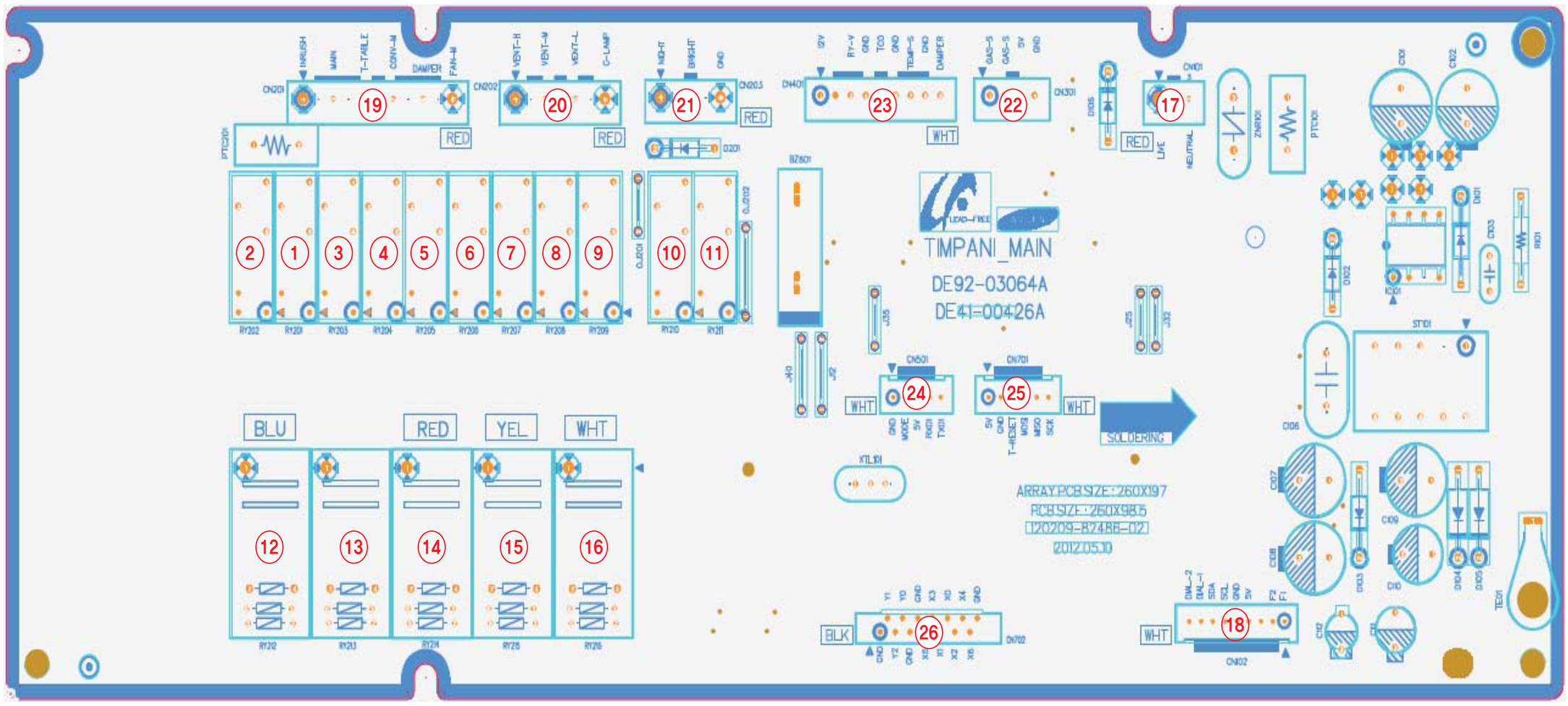

No.	Parts Number	Part Name	Function and Rule
1	RY201	Main Relay	Fan, Lamp, T/T Control
2	RY202	Inrush Relay	Inrush Electric Current Decrease
3	RY203	Turn Table Relay	T/Table Motor Control
4	RY204	Convection Motor Relay	Conv. Motor Control
5	RY205	Damper Relay	Damper Motor Control
6	RY206	Fan Motor Relay	Fan Motor Control
7	RY207	Vent High Relay	Turn on High Ventilation
8	RY208	Vent Medium Relay	Turn on Medium Ventilation
9	RY209	Vent Low Relay	Turn on Low Ventilation
10	RY210	Night Relay	Turn on Low Light
11	RY211	Bright Relay	Turn on High Light
12	RY212	Power High Relay	MW Power Control (High Power)
13	RY213	Power Low Relay	MW Power Control (Low Power)
14	RY214	Grill Heater Relay	Grill Heater Control
15	RY215	Convertion Heater 1 Relay	Conv. Heater Control
16	RY216	Convection Heater 2 Relay	Conv. Heater Control
17	CN101	Power Connector	Conncet Power supply
18	CN102	Display PBA Connector	Conncet Display PBA
19	CN201	Relay Connector	A Terminal for Connecting with Relay Contact (Inrush, Main, T/Table, Conv. Motor, Damper, Fan Motor)
20	CN202	Relay Connector	A Terminal for Connecting with Relay Contact (Vent-High, Vent-Medium, Vent-Low, Cooktop Lamp)
21	CN203	Relay Connector	A Terminal for Connecting with Relay Contact (Night, Bright)
22	CN301	Gas Sensor Connector	A Terminal for Connecting with Gas Sensor
23	CN401	Sensing Connector	A Terminal for Connecting Sensor (Door switch, Damper, Temp. Sensor)
24	CN501	On Board Writing Connector	When do Main MICOM revision, connect to MICOM writer. (No connection at normal times)
25	CN701	On Board Writing Connector	When do Touch MICOM revision, connect to MICOM writer. (No connection at normal times)
26	CN702	Touch Film Connector	A Terminal for Connecting with Touch Film

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5-1 PCB Diagrams(Main)

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CN201
1) INRUSH
2) NO PIN
3) MAIN
4) NO PIN
5) T/TABLE
6) NO PIN
7) CONV. MOTOR
8) NO PIN
9) FAN MOTOR

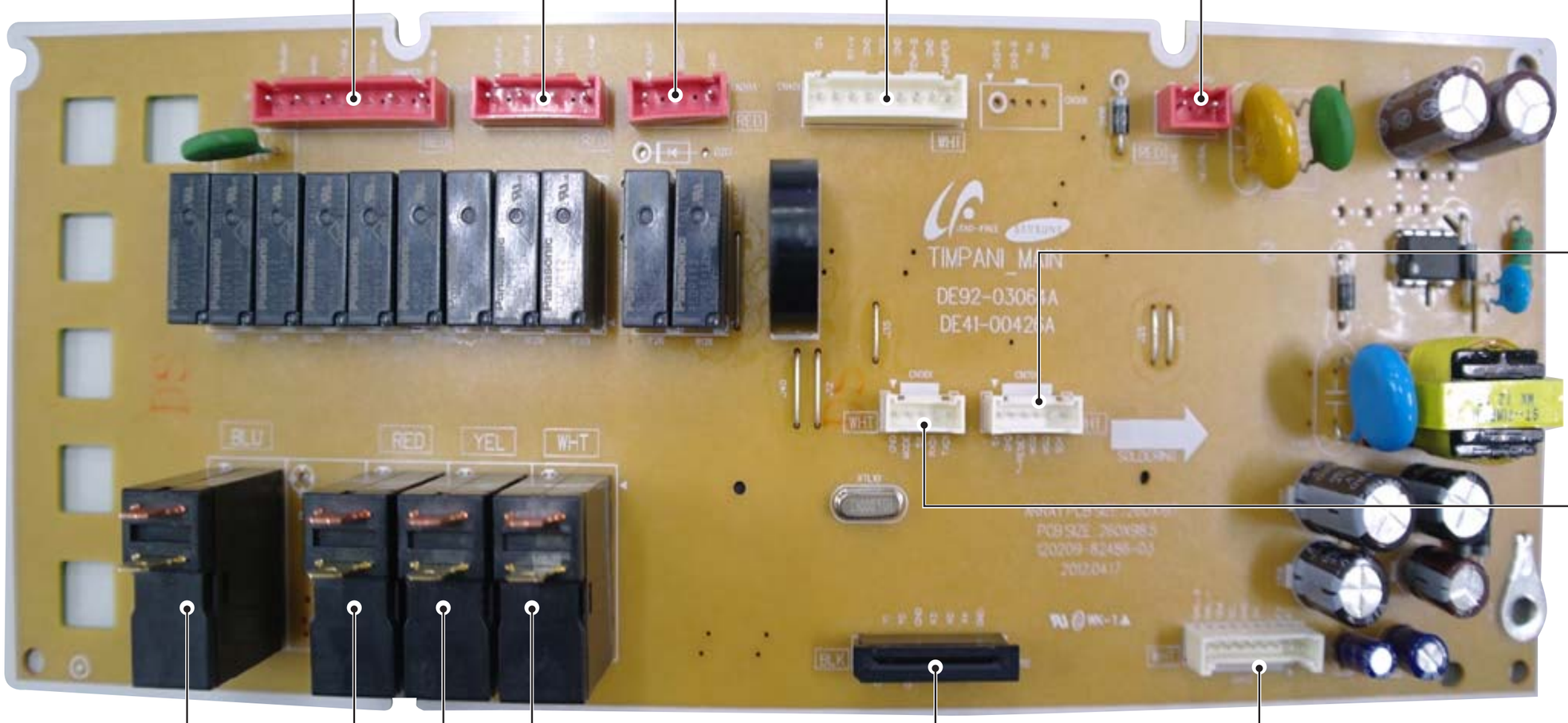
CN202
1) VENT HIGH
2) NO PIN
3) VENT MEDIUM
4) NO PIN
5) VENT LOW
6) NO PIN
7) COOKTOP LAMP

CN203
1) NIGHT
2) NO PIN
3) BRIGHT
4) NO PIN
5) GND

CN401
1) DOOR SWITCH2 (+12V)
2) NO CONNECTION
3) DOOR SWITCH1 (RY-V)
4) GND
5) TCO SENSOR
6) THERMAL SENSOR2 (GND, 0V)
7) THERMAL SENSOR1
8) DAMPER SWITCH2 (GND, 0V)
9) DAMPER SWITCH1

CN101
1) AC POWER (LIVE)
2) AC POWER (NEUTRAL)

CN501
(MAIN MICOM PROGRAM UPDATE)
1) POWER (GND, 0V)
2) MODE
3) POWER (+5V)
4) RXD1
5) TXD1



RY212
1) POWER RELAY CONTACT1 (HVT POWER)
2) POWER RELAY CONTACT2 (HVT POWER)

RY214
1) POWER RELAY CONTACT1 (GRILL HEATER)
2) POWER RELAY CONTACT2 (GRILL HEATER)

RY215
1) POWER RELAY CONTACT1 (CONV. HEATER 1)
2) POWER RELAY CONTACT2 (CONV. HEATER 1)

RY216
1) POWER RELAY CONTACT1 (CONV. HEATER 2)
2) POWER RELAY CONTACT2 (CONV. HEATER 2)

CN702
1) TOUCH FILM CONTACT (GND)
2) TOUCH FILM CONTACT (Y1)
3) TOUCH FILM CONTACT (Y2)
4) TOUCH FILM CONTACT (Y0)
5) TOUCH FILM CONTACT (GND)
6) TOUCH FILM CONTACT (GND)
7) TOUCH FILM CONTACT (X5)
8) TOUCH FILM CONTACT (X3)
9) TOUCH FILM CONTACT (X1)
10) TOUCH FILM CONTACT (X0)
11) TOUCH FILM CONTACT (X2)
12) TOUCH FILM CONTACT (X4)
13) TOUCH FILM CONTACT (X6)
14) TOUCH FILM CONTACT (GND)

CN102
1) VFD FILAMENT (F1)
2) VFD FILAMENT (F2)
3) NO CONNECTION
4) +5V
5) GND
6) SDA
7) SCL
8) ENCODER DIAL-1
9) ENCODER DIAL-2

CN701
(TOUCH MICOM PROGRAM UPDATE)
1) POWER (+5V)
2) POWER (GND, OV)
3) TOUCH RESET
4) MOSI
5) MISO
6) SCK

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5-2 PCB Diagrams(Sub)

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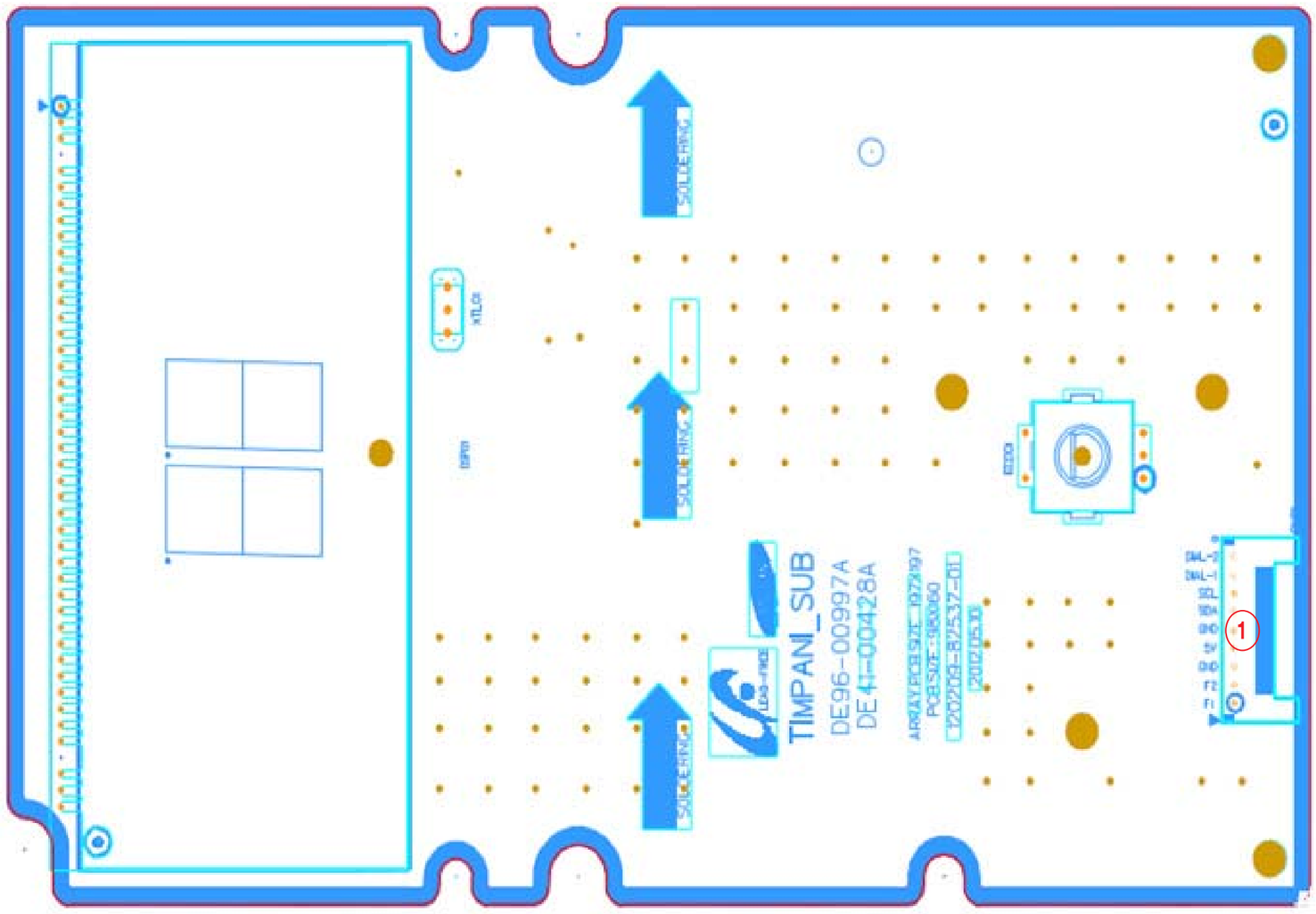
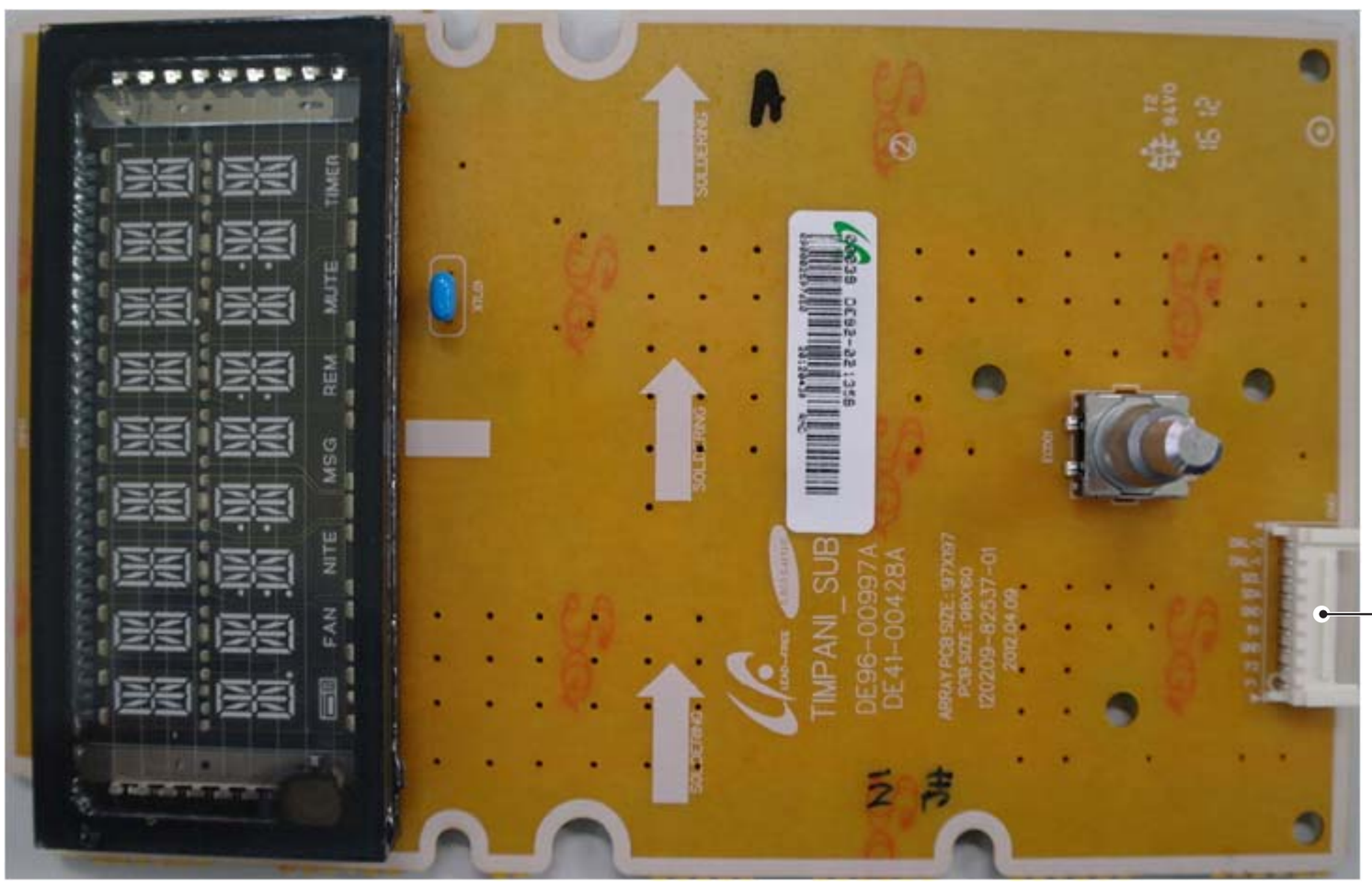


No.	Parts Number	Part Name	Function and Rule
1	CN01	MAIN PBA Connector	Conncet MAIN PBA



CN102
1) VFD FILAMENT (F1)
2) VFD FILAMENT (F2)
3) GND
4) +5V
5) GND
6) SDA
7) SCL
8) ENCODER DIAL-1
9) ENCODER DIAL-2

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6-1 Wiring Diagrams

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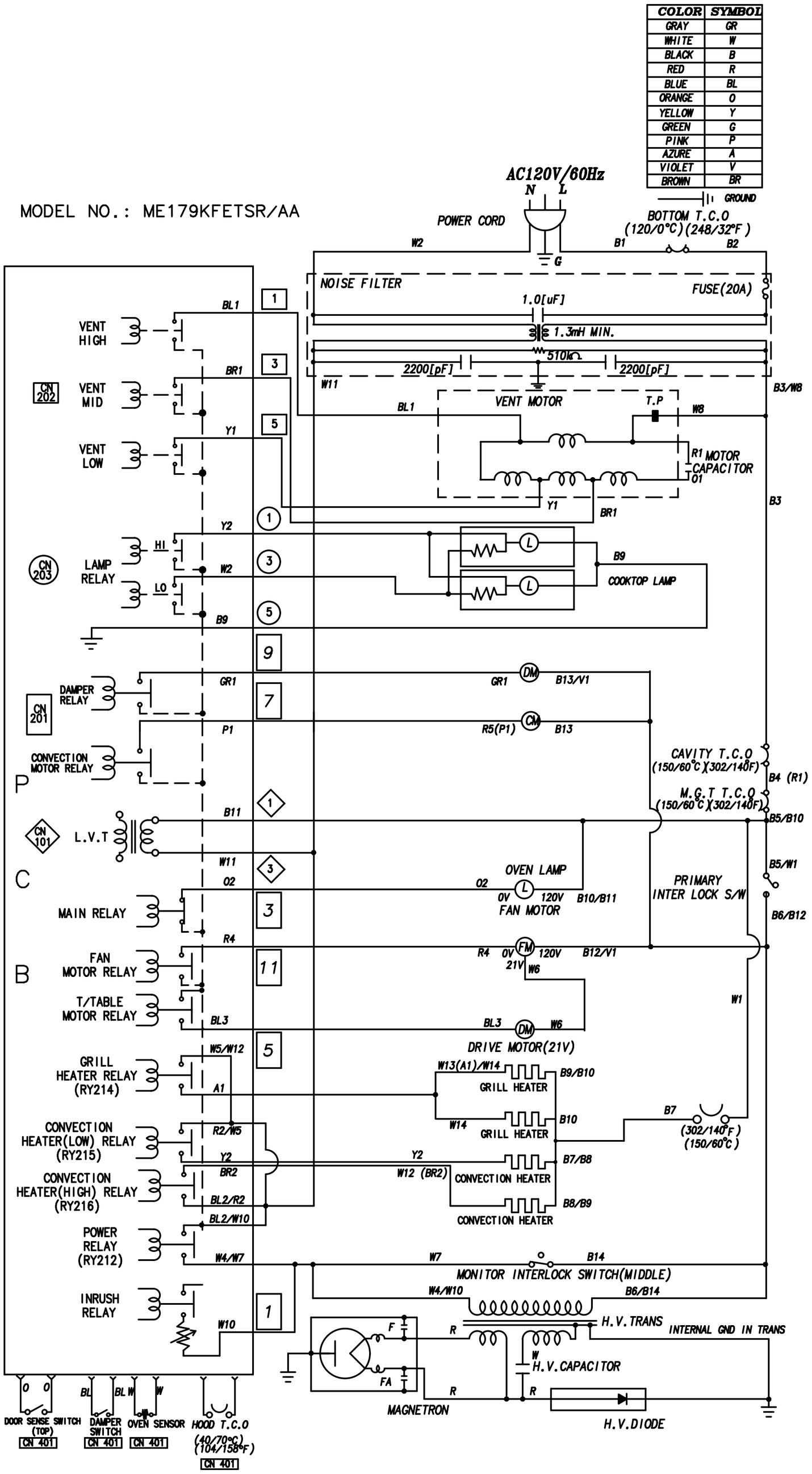

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6-2 Wiring Diagrams

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MODEL NO.: ME179KFETSR/AA

COLOR	SYMBOL
GRAY	GRA
WHITE	WHT
BLACK	BLK
RED	RED
BLUE	BLU
ORANGE	ORG
YELLOW	YEL
GREEN	GRN
PINK	PIN
AZURE	AZU
VIOLET	VIL

GROUND
HARNESS LEADS
PARTS LEADS

CN 201 (11, 1)
CN 202 (7, 1)
CN 203 (5, 1)
CN 401 (9, 1)
CN 101 (3, 1)

RED-4
GRY-1
PIN-1(RED-5)
BLU-3
ORG-2
WHT-11
BRN-1
YEL-1
BLU-1
BLK-7
WHT-2
YEL-2
BLU
BLU
WHT
WHT
RED
RED
ORG
ORG
WHT-11
BLK-11
BLU-2
WHT-10
WHT-4
WHT-9
BRN-2
BLU-2
RED-2
WHT-5
RED-2
BLU-4(YEL-3)
BLK-11
WHT-5
AZU-1(WHT-13)

BLU-3
WHT-6
T/TABLE MOTOR
BLK-7
YEL-2
WHT-2
AZU
YEL
WHT
COOKTOP LAMP
VIL-1
BLK-11
GRA-1
DAMPER MOTOR
BLK-13
RED-5(PIN-1)
CONVECTION MOTOR
RED-2
BLU-1
WHT-8
ORG-1
YEL-1
BRN-1
1
6
VENT. MOTOR
DAMPER SWITCH
OVEN SENSOR
HOOD TCO
DOOR SENSING SWITCH (TOP)
BLK-16
WHT-14
BLK-16
BLK-15
WHT-14
WHT-13(AZU-1)
GRILL-1 HEATER
GRILL-2 HEATER
WHT12(BRN-2)
BLK-15
BLK-14
HIGH CONVECTION HEATER
YEL-3(BLU-4)
BLK-13
BLK-14
LOW CONVECTION HEATER
HIGH POWER RELAY (RY212)
HIGH CONVECTION RELAY (RY216)
LOW CONVECTION RELAY (RY215)
GRILL RELAY (RY214)
RED-1(BLK-4)
BLK-5
BLK-10
MGT T.C.O
BLK-9
BLK-3
BLK-4(RED-1)
CAVITY T.C.O
WHT-1
BLK-13
CONVECTION T.C.O
RED-4
WHT-6
BLK-12
VIL-1
FAN MOTOR
BOTTOM T.C.O
1
2
BLK-2
BLK-1
BLK-1
WHT-3
BLK-6
BLK-14
WHT-4
WHT-10
H.V.CAPACITOR
RED
RED
H.V.DIODE
FA
MGT TUBE
WHT
F
RED
POWER CORD
GND
BLK
WHT
H.V.TRANS
BLK-5
WHT-1
BLK-6
BLK-12
PRIMARY INTERLOCK SWITCH(BOTTOM)
ORG-2
BLK-10
BLK-11
WHT
YEL
OVEN LAMP
WHT-9
BLK-3
WHT-8
BLK-2
WHT-3
OUT
IN
ASSY NOISE FILTER
ORG-1
RED-2
MOTOR CAPACITOR
BLK-14
WHT-6
MONITOR INTERLOCK SWITCH (MIDDLE)

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7-1 Schematic Diagrams (Main)

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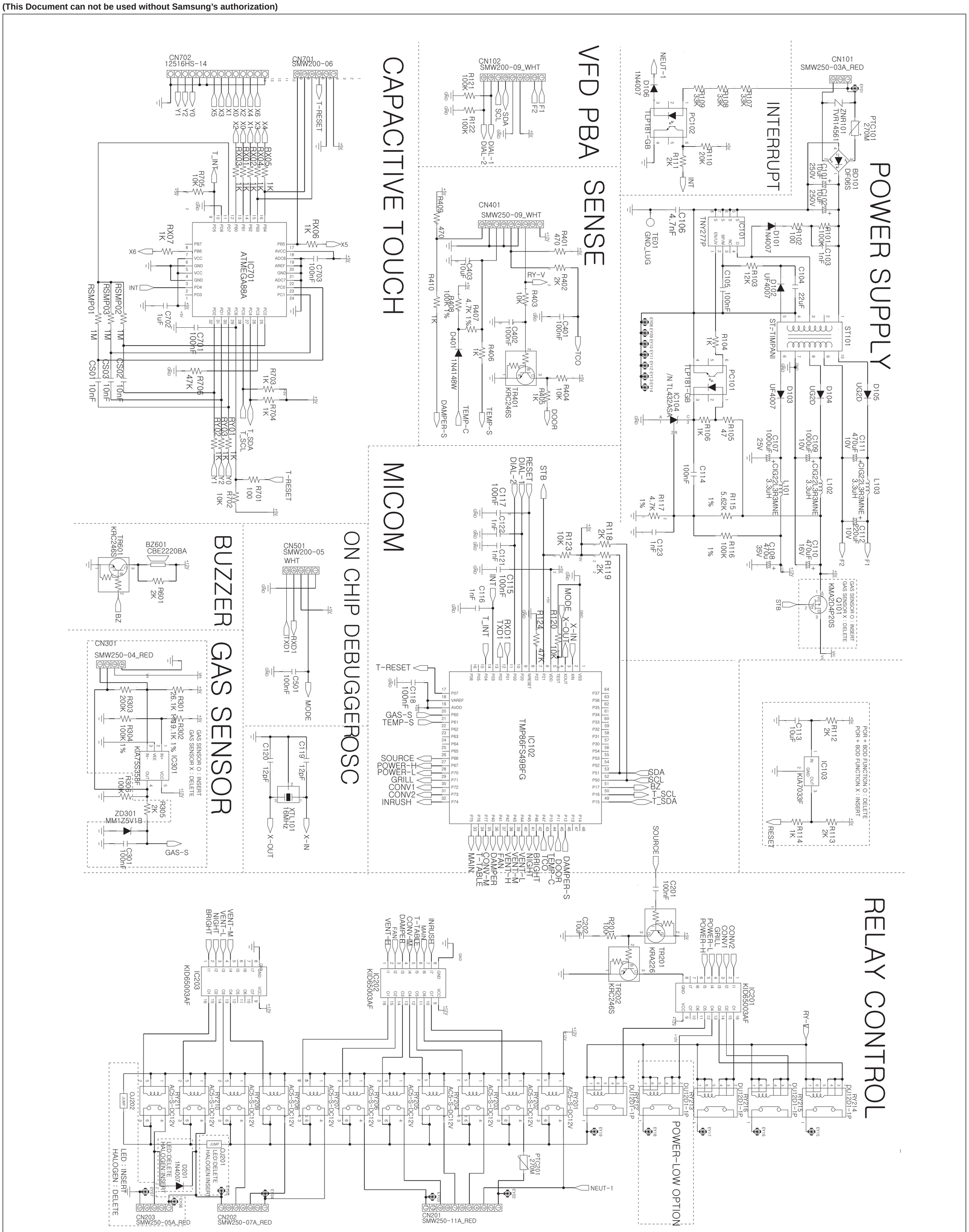

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7-2 Schematic Diagrams (Sub)

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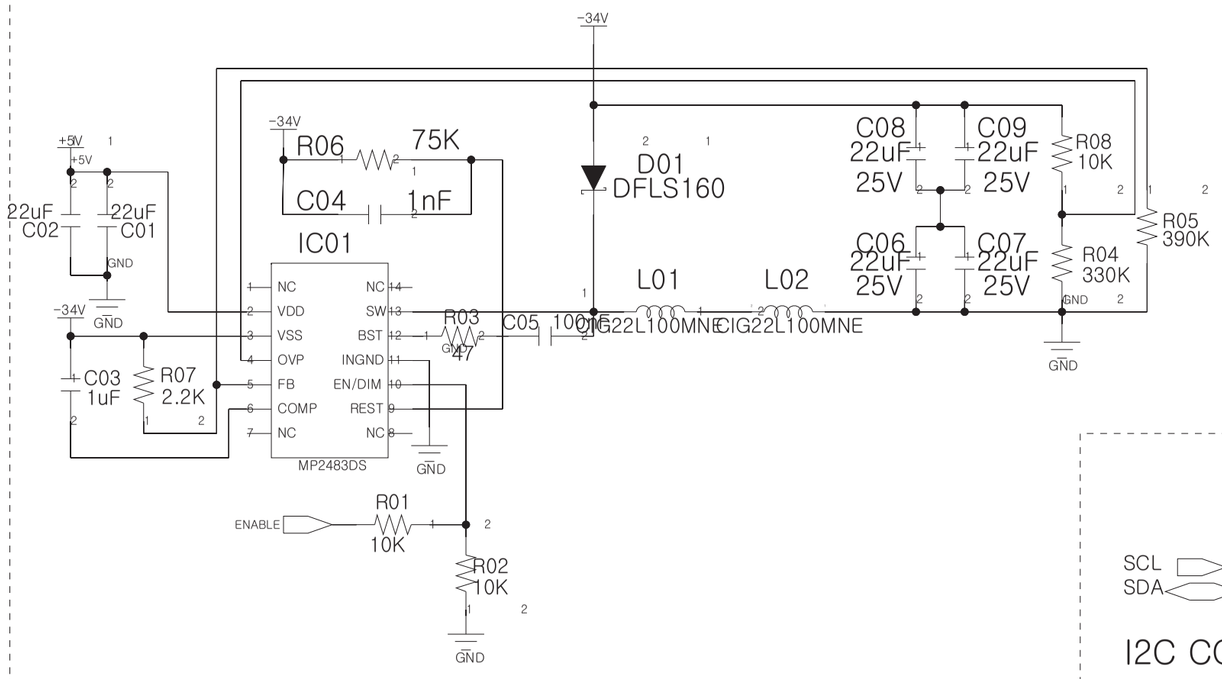
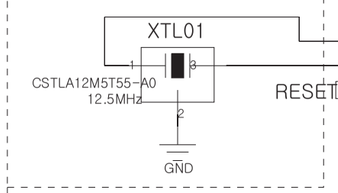
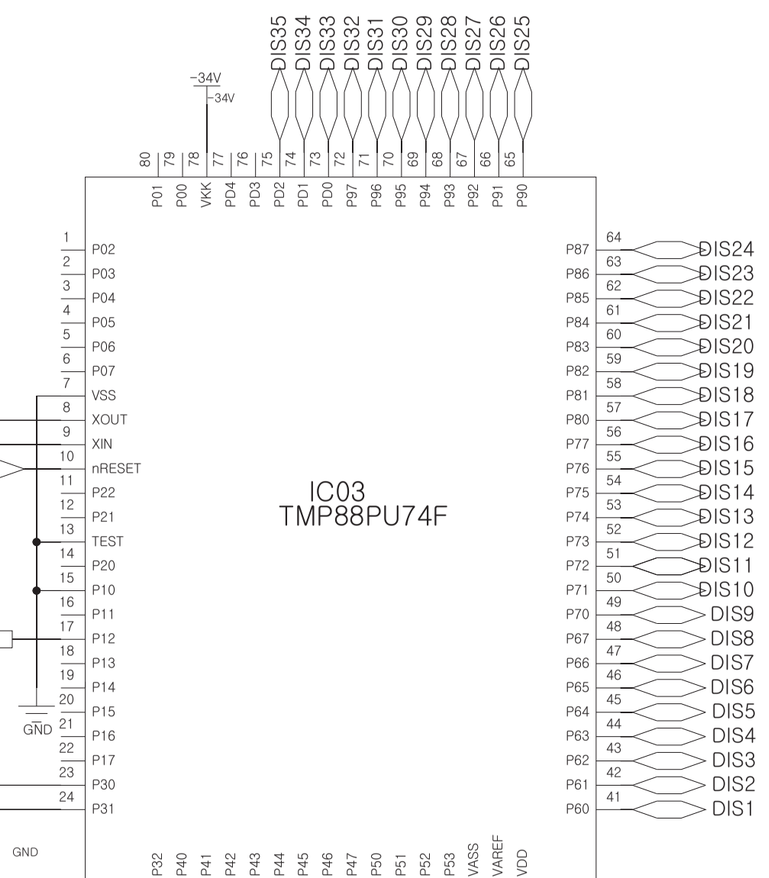
DC-DC CONVERTER

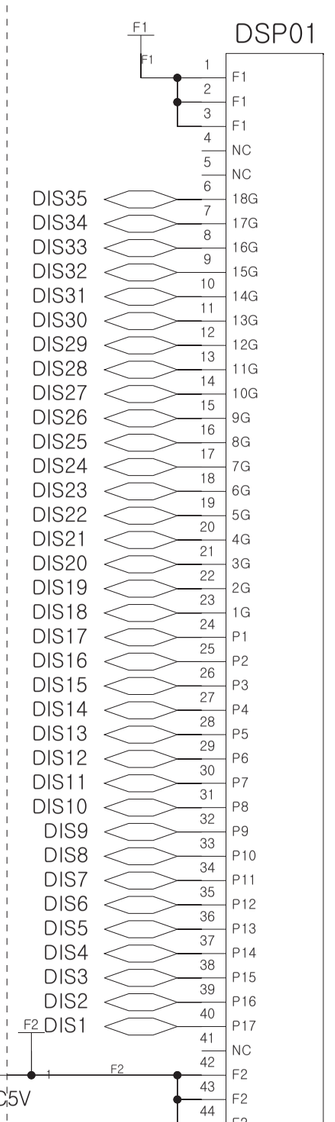


OSCILLATION

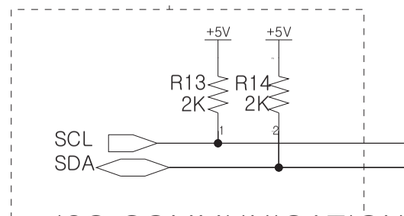




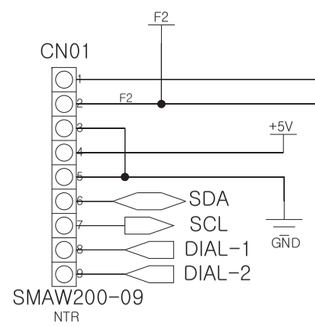
VFD



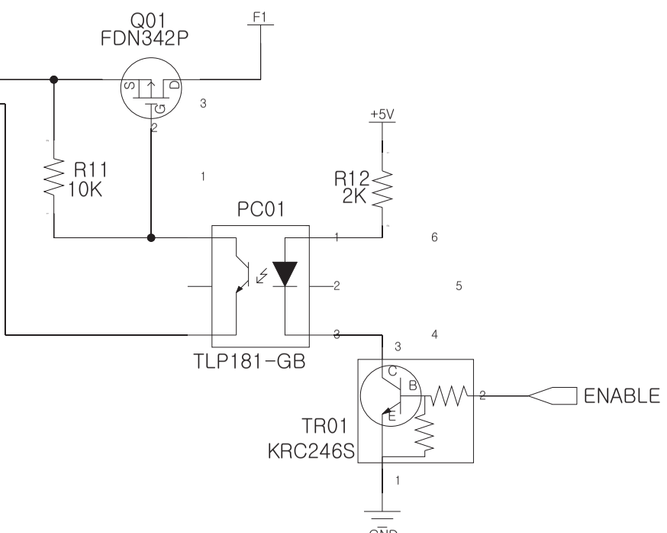
I2C COMMUNICATION



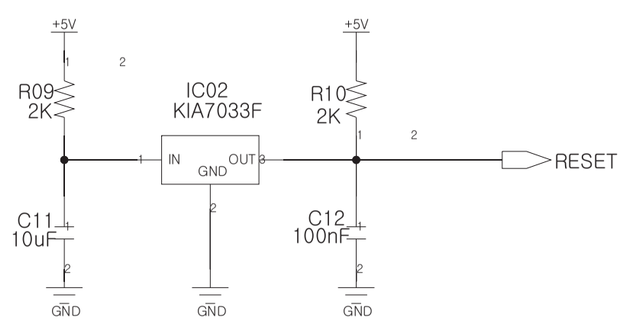
MAIN PBA



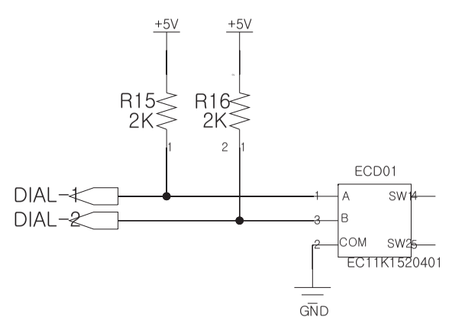
EF CONTROL



RESET



ENCODER



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